

DOCUMENT RESUME

ED 266 727

HE 019 097

AUTHOR Whitman, Neal A.; Schwenk, Thomas L.
TITLE Preceptors as Teachers: A Guide to Clinical Teaching.
INSTITUTION Utah Univ., Salt Lake City. School of Medicine.
PUB DATE 84
NOTE 30p.
AVAILABLE FROM University of Utah School of Medicine, 50 North Medical Drive, Salt Lake City, UT 84132 (Attn: Educational Development) (\$6.00).
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)
EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Clinical Experience; *Clinical Teaching (Health Professions); Demonstrations (Educational); Feedback; Higher Education; Knowledge Level; *Medical Students; Mentors; Motivation Techniques; Observation; *Physicians; Questioning Techniques; Role Models; Student Attitudes; *Student Evaluation; *Teacher Student Relationship; Teaching Guides; *Teaching Methods

ABSTRACT

A preceptorship model of clinical teaching for medical education is presented. Based on the view that physicians use precepting skills in patient care, preceptorship is seen as an opportunity for medical students to learn to practice ambulatory medicine away from the medical center. A model called "Johari Window" is adapted to explain the preceptor's role, and specifically the kinds of information people bring to every action: knowledge, attitudes, and skills. The model clarifies the two functions of clinical teaching: assessment and instruction. Assessment involves questioning, professional intimacy, and observation, while instruction involves shared experience, role modeling, and demonstration and practice. The model also includes feedback and evaluation. Five levels of questioning can be used to assess a learner's knowledge. Assessing professional attitudes and behaviors is analogous to assessing patient health care beliefs. Ways to encourage the preceptee (and patient) include developing rapport and genuine interest, and being accessible, empathetic, and nonjudgmental. The techniques of brainstorming, questioning, challenging, and summarizing are helpful in making the student a more active learner. Additional techniques for instruction, demonstration and practice, and feedback and evaluation are suggested. (SW)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as
received from the person or organization
originating it.

☐ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL IN MICROFICHE ONLY
HAS BEEN GRANTED BY

Neal
Whitman

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

This handbook is dedicated to C. Hilmon Castle, the founding Chairman of the Department of Family and Community Medicine at the University of Utah and to F. Marian Bishop, its current department head.

The authors acknowledge with great appreciation the helpful comments made by Joseph Q. Jarvis, M.D., senior resident in family practice at the University of Utah Affiliated Hospitals, and the particularly careful review and critique made by two outstanding preceptors: Robert Flaherty, M.D. of the University of Utah and Bozeman, Montana, and Aris M. Sophocles, M.D., of the University of Colorado and Breckenridge, Colorado.

Dr. Whitman is Director of Educational Development in the Department of Family and Community Medicine University of Utah School of Medicine. He has worked as a teacher and administrator in medical education since 1971. Areas of special interest have included creativity in teaching, how to overcome resistance to faculty development, and effective use of slides in medical presentations.

Dr. Schwenk is Director of Graduate and Postgraduate Education in the Department of family Practice, University of Michigan Medical School. He completed his undergraduate medical education at the University of Michigan Medical School. He did his family practice residency training, and completed a two-year Robert Wood Johnson Foundation Faculty Development Fellowship, under the direction of C. Hilmon Castle, M.D., in the Department of Family and Community Medicine of the University of Utah School of Medicine. Together with Dr. Whitman, Dr. Schwenk has published several handbooks on teaching skills and presented numerous workshops and seminars nationwide to academic groups.

Copyright© 1984 by the
University of Utah School of Medicine
Salt Lake City, Utah 84132

All Rights Reserved

Printed in the United States of America

First Printing

TABLE OF CONTENTS

CHAPTER I.	THE JOHARI WINDOW	1
CHAPTER II.	THE CLINICAL TEACHING MODEL	3
CHAPTER III.	THE FUNCTIONS OF CLINICAL TEACHING	5
CHAPTER IV.	AGENDA FOR THE PRECEPTOR	7
CHAPTER V.	ASSESSMENT OF KNOWLEDGE: QUESTIONING	9
CHAPTER VI.	ASSESSMENT OF ATTITUDES: PROFESSIONAL INTIMACY	11
CHAPTER VII.	ASSESSMENT OF SKILLS: OBSERVATION	13
CHAPTER VIII.	INSTRUCTION OF KNOWLEDGE: SHARED EXPERIENCE	15
CHAPTER IX.	INSTRUCTION OF ATTITUDES: ROLE MODELING	17
CHAPTER X.	INSTRUCTION OF SKILLS: DEMONSTRATION AND PRACTICE	19
CHAPTER XI.	FEEDBACK AND EVALUATION	21
CHAPTER XII.	BECOMING A CREATIVE PRECEPTOR	23
	REFERENCES	25

Chapter I

THE JOHARI WINDOW

The theme of this handbook is that the preceptorship is unique. It is a unique opportunity for medical students and residents to learn how to practice ambulatory medicine away from the medical center. It poses a unique challenge for clinicians in that no other component of medical education demands of the teacher such a large degree of "preparedness without preparation" (Reichman *et al.*, p. 147). However, while the preceptorship poses a unique challenge for clinicians, we also believe that they are uniquely qualified to teach medical students and residents. Specifically, we are convinced that physicians already possess the skills of precepting because they are many of the same skills you use in patient care. For that reason, our aim is to tell you what to do, not so much *how* to do it!

To tell you what to do, we have adapted a model developed by two communication specialists in the 1950s, Joseph Luft and Harry Ingram. According to their model, known as the Johari Window, people bring certain kinds of information to every interaction (see Figure I). By looking at what an individual knows and does not know about him(her)-self and what others know and do not know about that person, there are four possibilities:

- A. There is information known by Self and Others. This is the *arena*, i.e., the area of openness between people.
- B. There is information known by Self, but kept from Others. This is our *facade*, i.e., the arena we choose not to reveal to other people.
- C. There is information not known by Self, but known by Others. This is our *blindspot*, i.e., we lack certain insights about ourselves which might be obvious to people with whom we interact.
- D. There is information known neither by Self or Others. This is *unknown* territory, i.e., there are untapped attributes, skills, and potentials.

Figure I. The Johari Window

	WHAT YOU KNOW ABOUT SELF	WHAT YOU DO NOT KNOW ABOUT SELF
WHAT OTHERS KNOW ABOUT YOU	A. ARENA	C. BLINDSPOT
WHAT OTHERS DO NOT KNOW ABOUT YOU	B. FACADE	D. UNKNOWN

Chapter II

THE CLINICAL TEACHING MODEL

With the Johari Window in mind, let's build our own model of precepting by looking at what your students or residents know about medicine, and what *you* know they know. Of course, the objectives of a preceptorship include the learning of attitudes and skills as well as knowledge. Thus, looking at the learner's knowledge, attitude, and skills, which we will abbreviate as KAS, there are four possibilities (see Figure II).

- A. There is KAS that the learner has that you are aware of. This is *shared KAS*. For example, you may be aware that a medical student knows the signs and symptoms of bronchial asthma.
- B. There is KAS that the learner has that you are *not* aware of. This is *hidden KAS* . . . hidden at least from you. For example, you may not be aware that the medical student also knows the signs and symptoms of respiratory acidosis.
- C. There is KAS that the student does not have, but you are aware of these shortcomings. This is an area of *known needs*. For example, you may be aware that the student does not appreciate the importance of teaching asthmatic children to recognize their trigger factors.
- D. There is KAS that the student does not have, and you are unaware of these deficiencies. This is an area of *unknown needs*. For example, you may not be aware that the student does not know how to perform a radial artery puncture.

Figure II. Clinical Teaching Model

	LEARNER HAS KAS	LEARNER DOES NOT HAVE KAS
TEACHER IS AWARE OF KAS	A. SHARED KAS	C. KNOWN NEEDS
TEACHER IS NOT AWARE OF KAS	B. HIDDEN KAS	D. UNKNOWN NEEDS

Chapter III

THE FUNCTIONS OF CLINICAL TEACHING

The value of our model is that it makes clear the two functions of clinical teaching: *assessment* and *instruction*. Looking at Figure III, you can see the new boundaries created by assessment and instruction. Through assessment, the teacher is more aware of *shared KAS* and *known needs*. These two areas are enlarged, while *hidden KAS* and *unknown needs* are reduced.

By being aware of known needs, the clinical teacher can target instruction more accurately. When there is inadequate assessment of the learner's knowledge, attitude, and skills, instruction might be attempted in the area of shared KAS. It makes little sense to impart facts already known, to inculcate an attitude already agreed upon, or to demonstrate a skill that the student already has. It is a waste of time . . . both yours and the learner's. This is not to say that there is no value in review, reinforcement, and "fine tuning." But, the major effort of a preceptorship should be to meet previously unmet needs (both known and unknown) of the learner.

So, assessment is the key to targeting your instruction to the known needs. In fact, a "bonus" area, seen in the darkest shade in Figure III, is where you target instruction to *new* known needs uncovered by your assessment. In addition, reducing the area of unknown needs, and letting the learner know what these are, is another important outcome of a preceptorship. Since there is not time to instruct *all* known needs in a preceptorship, helping the learners become aware of their needs can direct their future learning when they return to their home institution.

Figure III. Functions of Clinical Teaching

	LEARNER HAS KAS	LEARNER DOES NOT HAVE KAS
TEACHER IS AWARE OF KAS	A. SHARED KAS	C. KNOWN NEEDS
TEACHER IS NOT AWARE OF KAS	B. HIDDEN KAS	D. UNKNOWN NEEDS

INSTRUCTION

ASSESSMENT

Chapter IV

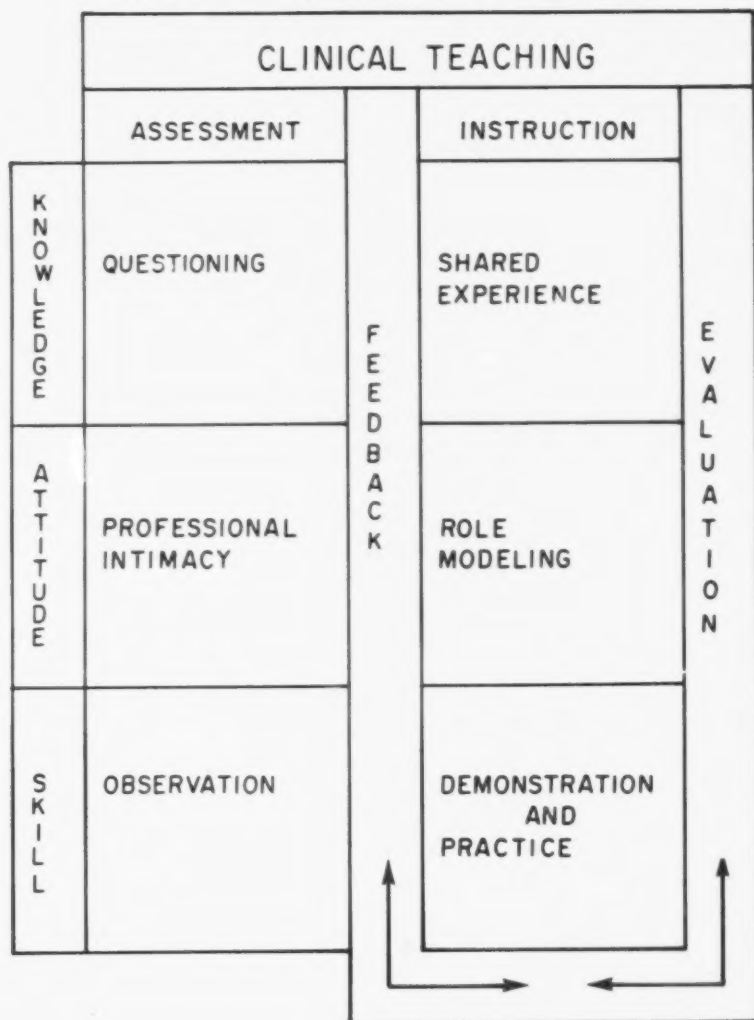
AGENDA FOR THE PRECEPTOR

Making use of this model of clinical teaching, the agenda for the preceptor and for this handbook becomes clear (see Figure IV). We will address how to assess and instruct knowledge, attitude, and skills.

Looking at Figure IV, you can see two additional activities: feedback and evaluation. By feedback, we mean information about current performance which can be used to improve future performance. Giving feedback connects assessment and instruction. *Can you picture that the experience of most medical students and residents is that disclosing their needs is punished, while hiding their needs is rewarded?* In other words, medical students and residents often find that they are treated better when they appear competent, *even when they are not*. The manner in which you give feedback will determine whether your learners choose to reveal or not reveal their needs to you. Obviously, they can make assessment by you more or less difficult. Feedback, even when negative, can encourage a learner to be disclosing and revealing if the feedback is given properly. In addition to helping you with assessment, effective feedback is a major means of instruction since it is aimed at improving future performance. Of course, good assessment is key to effective feedback since you have to know "where the learner is coming from" in order to give accurate feedback.

Feedback is a type of evaluation known as formative (Scriven, 1967). Formative evaluation is conducted as the process of teaching and learning occurs, and its purpose is to improve. At the end of the preceptorship, there is a need for summative evaluation whose purpose is to make judgments and draw conclusions. Basically, you will be responsible for judging the knowledge, attitude, and skill level of your learners and drawing conclusions regarding their overall performance on the preceptorship. If you have been both assessing and instructing KAS, your summative evaluation, or "final grade", will be a natural outcome.

Figure IV. Agenda For Preceptors



Chapter V

ASSESSMENT OF KNOWLEDGE: QUESTIONING

A question is any eliciting of an answer regardless of grammatical form, and an answer is any response which fulfills the expectation of the questioner. In formulating questions to assess knowledge, we recommend both closed and open questions, as described by Foley and Smilansky (1980). Closed questions have a small range of possible correct answers; open questions allow for a wide range of appropriate responses. As clinicians, you already use both types of questions when interviewing patients. We urge you to use your patient questioning skills to assess your learner's level of knowledge.

We like to think of using closed and open questions as like playing the accordian. Often when you take a patient's history, you begin with an open question such as, "What can I do for you today?" Then you ask more closed questions to "zero in" on the patient's problem. When you have learned enough about the problem for the time being, you ask another open question like "Is there anything else?" Likewise, sometimes it is good to begin your assessment of a learner's knowledge with an open question such as, "What are your impressions of that patient?" Next you can ask more closed questions to learn what the student or resident knows about a patient's problem. Then you might want to use an open question to uncover other areas of knowledge.

When you use questioning to assess a learner's knowledge, consider using different levels of questions to assess *depth* of knowledge.

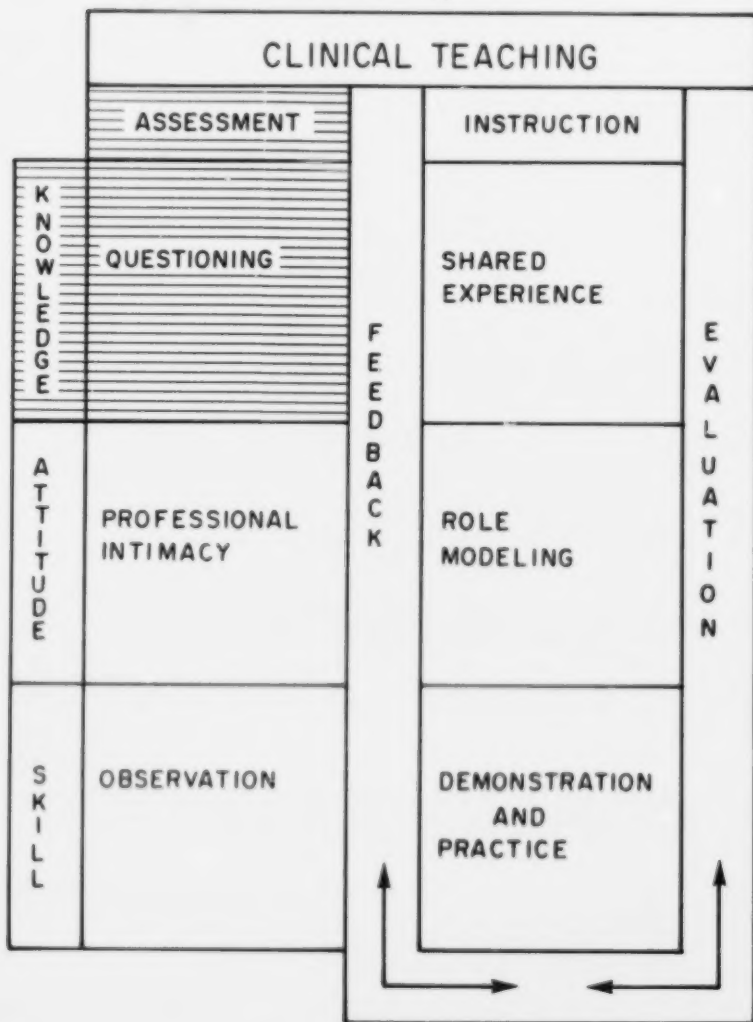
According to one typology, there are five levels of questions. We suggest that you include all five levels in your repertoire.

1. **Factual** questions can be used to get information and begin discussion. These are the "W" questions: what, where, and when. For example, suppose a patient with low back pain has been seen. You might ask, "What is the most frequent cause of back pain?"
2. **Broadening** questions can be used to assess additional knowledge. For example, if trauma has been identified as the most frequent cause of back pain, you might ask, "Are there other important causes of back pain?"
3. **Justifying** questions can be used to challenge ideas and to assess depth of knowledge and understanding. For example, suppose your patient's low back pain was due to a compression fracture resulting from a fall. You might ask, "What treatment do you recommend and why?"
4. **Hypothetical** questions can be used to explore new situations. Suppose your low back pain patient is middle-aged with spondylolithesis. You might ask, "Suppose this patient were an active teenager. Would treatment differ?"

5. **Alternative questions** can be used to assess decision-making skills. For example, after ascertaining that an active teenager with spondylolithesis is a candidate for spinal fusion, you might ask, "What would happen if we treated this case conservatively for two years versus taking more aggressive action now?"

Questioning does *not* mean interrogating. Let students and residents know that its purpose is to help you target instruction, not to belittle them. Finally, asking medical students and residents what *they* want to learn will help you assess their needs.

Figure V. Questioning



Chapter VI

ASSESSMENT OF ATTITUDES: PROFESSIONAL INTIMACY

The assessment of learners' attitudes is really an assessment of their budding professional behaviors. We can never really know a person's attitudes except as they are demonstrated through behavior. The behavior of the preceptee assigned to you, which you wish to assess, is strongly influenced by your behavior. Later, we will take on the difficult problem of defining learner behaviors that are good or bad, desirable or undesirable, although there is considerable disagreement about this. What we would rather do now is give you some suggestions for how you can behave that will give you the best chance of *seeing* your learner's behavior clearly and accurately. You can then decide for yourself which behaviors are to be encouraged or discouraged in the *instruction* of attitudes (although we'll reveal some of *our* biases in Chapter IX).

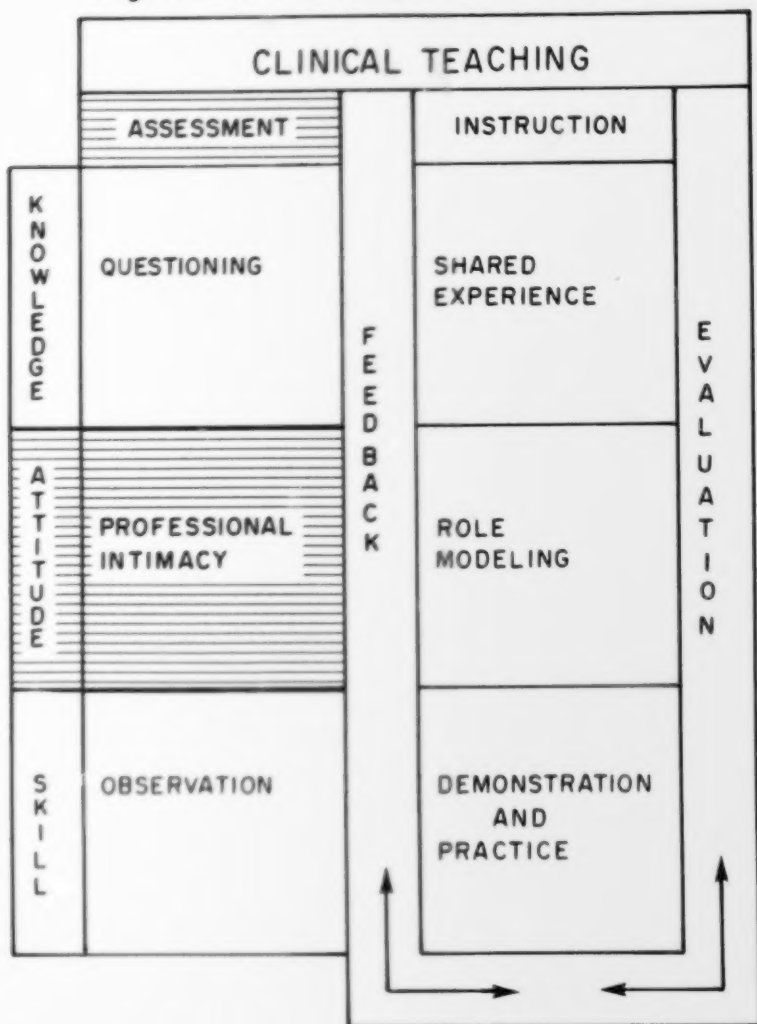
The assessment of professional attitudes and behaviors is quite analogous to the assessment of patient health care beliefs and health care seeking behaviors. This is something you do daily. As we describe techniques useful for assessing professional behaviors, imagine that you are with a patient in your office, attempting to understand the patient's health care behaviors so that you may effectively plan future diagnostic, therapeutic or patient education procedures. There are at least five ways you can behave that will encourage your preceptee (as well as patient) to be revealing. Some of these are suggested by studies on clinical teacher effectiveness by Stritter *et al.* (1975), Irby (1978) and Lamkin *et al.* (1983).

1. Develop *rapport*. You can encourage the learner to be revealing by revealing yourself. Share your personal thoughts, opinions and stories in an open and self-aware way that makes clear that self-disclosure and personal vulnerability are valued. Inclusion of the student in personal, family and social activities is particularly good for this.
2. Show *genuine interest* in your students by including them as full participants in your professional activities and introducing them to office and hospital staff. Your contact with their (often) constant presence will make them comfortable, particularly if you can demonstrate comfort with students of widely varying levels of competence.
3. Be easily *accessible* to your learners by being patient with their presence and their ideas, making clear when you wish to answer questions and discuss patients (and when not), and recognizing that your teaching role requires extra time and work on your part.
4. Be *empathetic*. Try to remember when you were a student or a resident, and remember the many fears, anxieties and uncertain-

ties you felt. Your student no doubt feels the same. Your compassionate style will allow learners to express these honestly.

5. *Be non-judgmental.* By acknowledging the general value of a student's ideas and opinions without implying that all are correct, you can create an atmosphere of mutual respect and inquiry.

Figure VI. Professional Intimacy



Chapter VII

ASSESSMENT OF SKILLS: OBSERVATION

As clinicians, observation is one of your strongest skills, although clinical skills have been assisted (and sometimes supplanted) by technology. For example, an electrocardiogram indicates cardiac arrhythmias better than a clinician's palpation of the pulse. However, as Feinstein (1967) points out, direct observation has not yet been removed from your domain, and will likely never be. In fact, "As long as clinicians continue to treat sick people, many entities unique to people will continue to require observation and assessment by clinicians" (p. 297).

What we want you to do is to apply your powers of patient observation to student/resident observation so that you can assess their skills. Basically, you want to become aware of your student's or resident's level of competence so that you can target your instructional effort.

Before answering the question, "Is this person competent?", it is necessary to answer a prior question, "What is competence?" Therefore, you might find it helpful to develop checklists for common procedures performed in your office or clinic. By breaking a skill down into specific steps, it is easy to record errors and omissions. Of course, your definition of competence may also include interpersonal skills as well as technical steps.

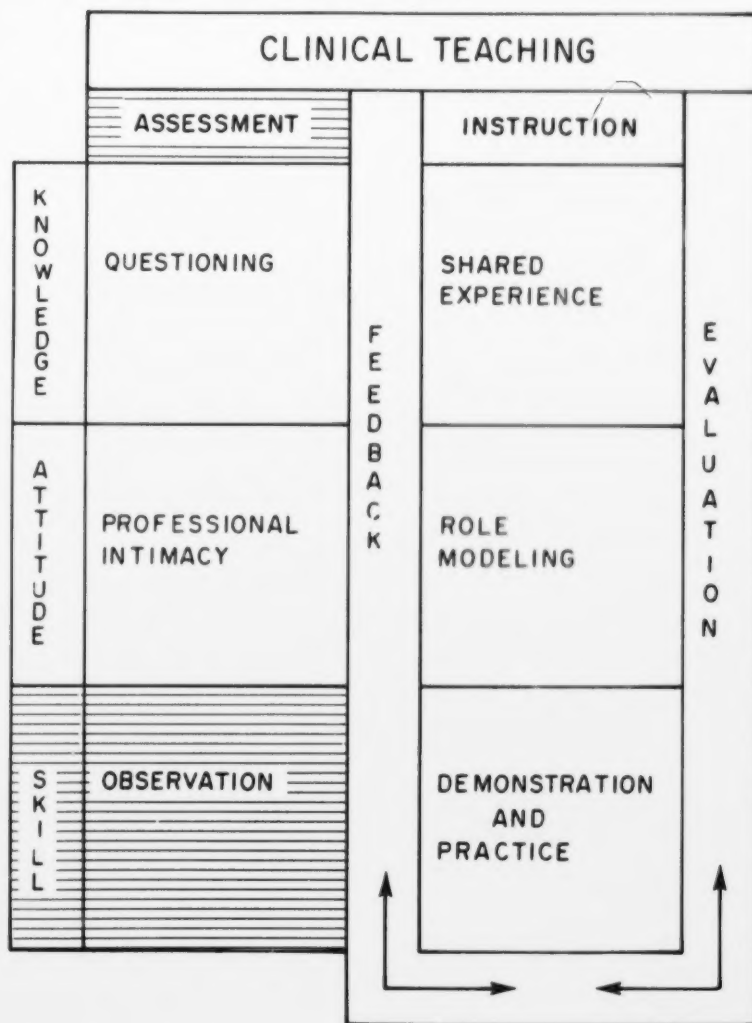
When observing a learner, non-verbal cues may be significant. How comfortable and confident did the student or resident seem? In addition, feedback from patients can help round out your assessment or provide assessment data for performance you have not witnessed yourself.

Assessment of skills is one of the preceptor's most important contributions to medical education because, according to some reports, no one else is doing it! In a now-famous article, Ludwig Eichna described his experiences as a medical student when he re-enrolled in medical school after retiring from Chairman of the Department of Medicine at the State University of New York Downstate Medical Center. According to Eichna,

Clinical skills are no longer actively taught. A casual pass is made in the course on physical diagnosis, but students are not observed talking to patients or examining them. We are training future physicians who have never been observed to elicit a history or take a physical examination — not in the second year physical diagnosis course, not in third year clinical clerkships, and not during house officership (p. 731).

Thus, the preceptorship may be the best (and only) place for a learner to be intensively observed in the performance of many fundamental clinical skills.

Figure VII. Observation



Chapter VIII

INSTRUCTION OF KNOWLEDGE: SHARED EXPERIENCE

There are three basic ways that knowledge may be transmitted by you to a learner, depending upon how active or passive you and the learner are in the process. You may be active and the learner passive, you both may be active, or you may be passive while the learner is active and does the work. In a preceptorship, there are techniques for all three of these situations that have parallels in your work in patient education.

When you wish to be relatively more active than the learner, tell "war stories." The resource of most value is your vast clinical experience. Share it! Describe difficult cases from the past, current diagnostic dilemmas, and cases that were either triumphs or failures. You cannot teach totally in this fashion, but it's hard to overdo it.

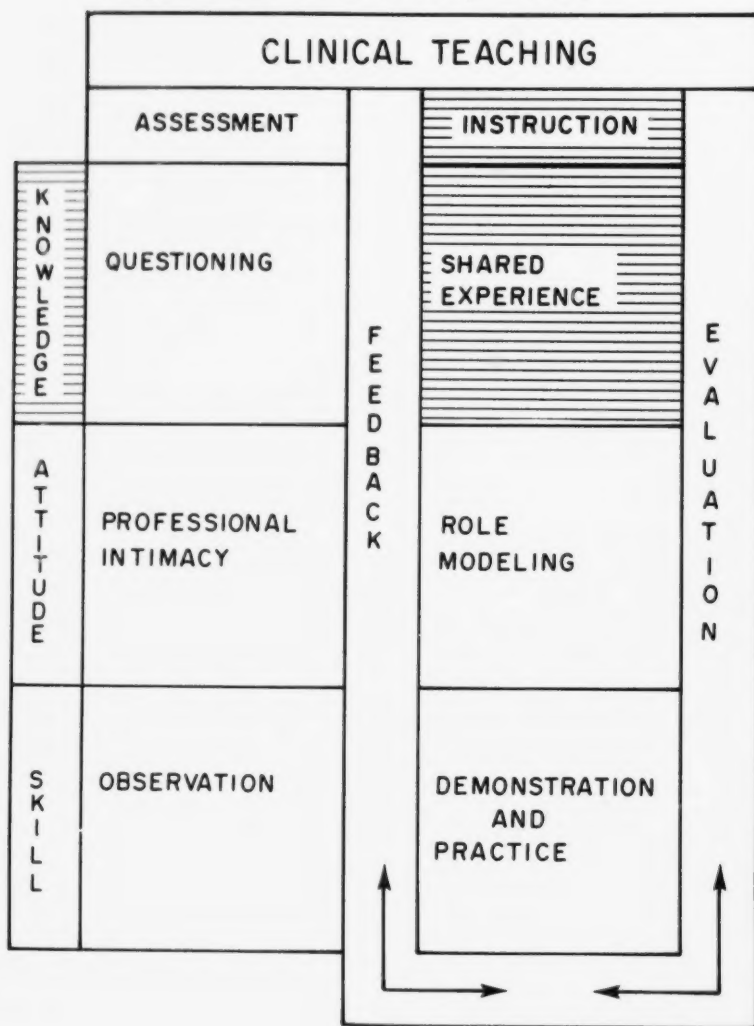
When you wish to make the student or resident more active, you can adopt a more interactive style of instruction by using the techniques of brainstorming, questioning, challenging, and summarizing. The purpose of brainstorming is to generate differential diagnoses or multiple therapeutic options. Not all options have to be correct, but all are worth discussing. You can pose hypothetical cases or situations to the learner, or different variations of the current case, and ask what new diagnoses or treatments ought to be considered. "If the temperature in this patient with abdominal pain were 41°C instead of 39°C, what other diagnoses would be worth considering?"

Questioning can be used to teach knowledge, just as it can be used to assess it, as described in Section V. Both closed, convergent questions and open-ended, divergent questions are useful for instruction, with the latter a bit more so than the former. By open-ended, we mean questions with more than one (at least partially) correct answer. By divergent, we mean questions that lead to other questions. For instruction purposes, learners should not be asked "yes-or-no" questions, but rather be asked to *clarify, correlate, critique, evaluate, analyze, interpret, and predict*.

Students should also be challenged by asking them to *support, justify, and defend* their answers. A certain rapport is required before this will be successful, as are certain skills in constructive confrontation. For this reason, it might be a technique to use somewhat later in the preceptorship. Summarizing is a technique that can be used at all times, however. You can summarize your thoughts to the learner, as added emphasis, and you can ask the learner to do the same. This is a bit less threatening, but equally valuable, way of instructing knowledge.

Finally, an activity in which the learner does all the work is independent study. You can assign extra or special reading on a particular case, or assign an actual project for the preceptorship, such as preparing a report on a current topic or designing teaching aids for future preceptees. Some preceptorships have prepared reading lists pertinent to their practice or specialty that are assigned, as described by Flaherty (1983).

Figure VIII. Shared Experience



Chapter IX

INSTRUCTION OF ATTITUDES: ROLE MODELING

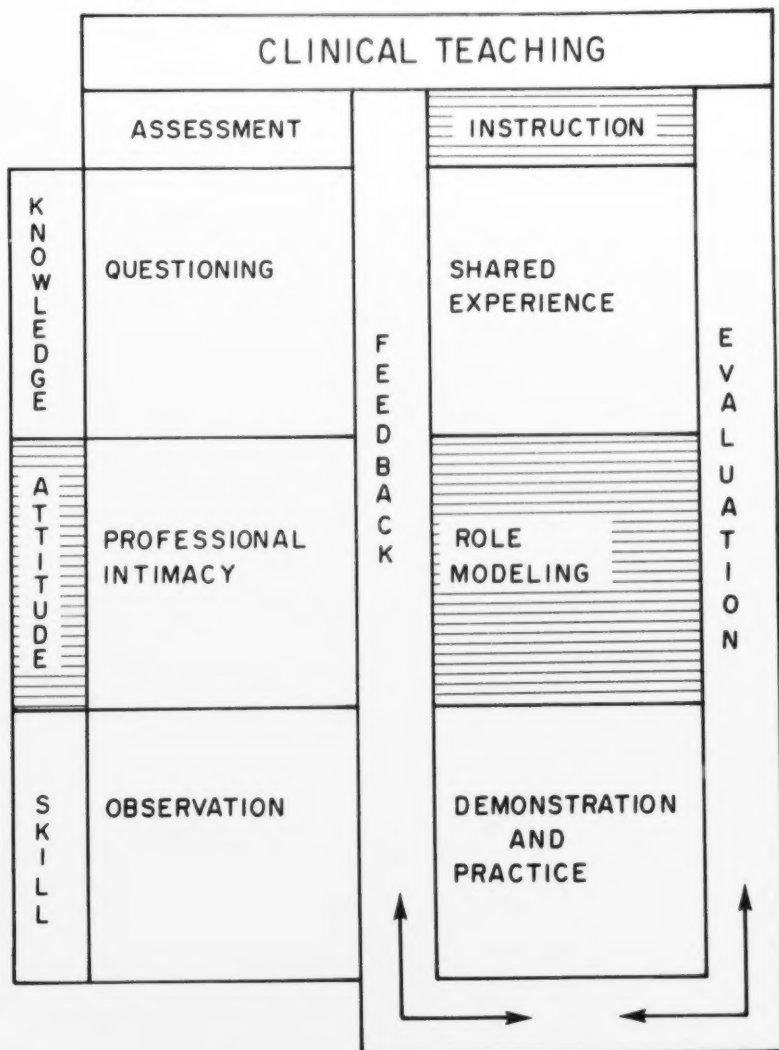
It is difficult to describe techniques for the instruction of professional attitudes without suggesting certain attitudes as desirable or normative. Doing this leads us into some controversial areas, for there are many ways for physicians to behave that successfully meet their patients' needs. Given this caveat, however, we do think there are certain broad categories of professional behaviors that are worthy of transmitting to students or residents. Interestingly, these are the same behaviors identified by medical students as most desirable in ideal clinical teachers (Stritter, *et al.* 1975, Irby 1978, Lamkin *et al.* 1983), so once again we see certain parallels between clinical precepting and patient care.

We would propose four areas of professional behavior as suitable for role modeling. As we all know, we cannot tell someone else how to be, but we can show them how to be and, by our example, make being that way seem desirable and worthwhile.

1. Be *capable*. Walsh McDermott (1982) said that the "deep belief in the necessity of thoroughness is the most important element of medical education." You can instruct the attitude of competency and excellence by providing excellent medical care, being organized in your patient care and teaching work (and balancing both carefully), being well-read in your field and demonstrating how you value the maintenance of your abilities. Emphasizing the important and practical aspects of your patient care and explaining your decisions clearly will also help.
2. Be *sensitive*. The easiest way to instruct the attitude of sensitivity to the needs of patients is to be sensitive to the needs of your student. Perhaps this is a new variation of the Golden Rule for medical teachers — "treat your students as you would have them treat their patients." By being *empathetic* to the anxieties and fears of being a medical learner, being *patient* with their halting efforts to learn, being *compassionate* about their failures and *gentle* in recognizing their inadequacies, you will role model a proper patient care approach. This will be even more true if your students see you caring for patients in the same way.
3. Be *enthusiastic*. By being *accessible* to learners, *interested* in their problems and needs, and *dynamic* and *energetic* in your approach to them, you will promote both productive learning and good patient care.
4. Be *yourself*. Now that we've told you how we think you should be, we'll tell you to be yourself, however that is. In the final analysis, the most important aspects of instructing attitudes are to (a) willingly demonstrate and defend your patient care behaviors,

(b) to be explicit and honest about how you deal with the uncertainties, difficulties, and ambiguities of medical practice, and (c) to be willing to say, as we all must at times, "I don't know!"

Figure IX. Role Modeling



Chapter X

INSTRUCTION OF SKILLS: DEMONSTRATION AND PRACTICE

The old surgical dictum, "See one, do one, teach one," still governs much of our work in the instruction of skills. However, besides being a bit light in the number of repetitions suggested, we also think it doesn't really help us know what to do specifically. Here are two principles that will help you a bit more.

First, always teach patient care skills at the level of the learner. Learners progress through four levels of sophistication as they learn new skills (*Personnel Journal*, 1974). Teachers must be aware of the level of sophistication at which a learner is currently functioning and match their teaching to that level. Teaching at a level of understanding greater or lesser than that of the learner is unproductive, frustrating, or both.

The four possible levels of understanding are:

1. unconsciously incompetent
2. consciously incompetent
3. consciously competent, and
4. unconsciously competent

Most learners are at level 1, where they do not even know what they do not know. Most teachers are at level 4, where they can "do it in their sleep." The teacher must join the learner, since the converse situation is impossible. For instance, in teaching a junior medical student how to draw an arterial blood specimen, the teacher would first make the learner aware of the technique's existence, the equipment required, the indications and contra-indications. The learner would then know what he/she does not know and be *consciously incompetent*. Proper demonstration and practice on models and patients would allow the learner to see and perform the procedure correctly, albeit with hesitation and anxiety, and thus become *consciously competent*. Hundreds of correct performances later, the learner would be *unconsciously competent*.

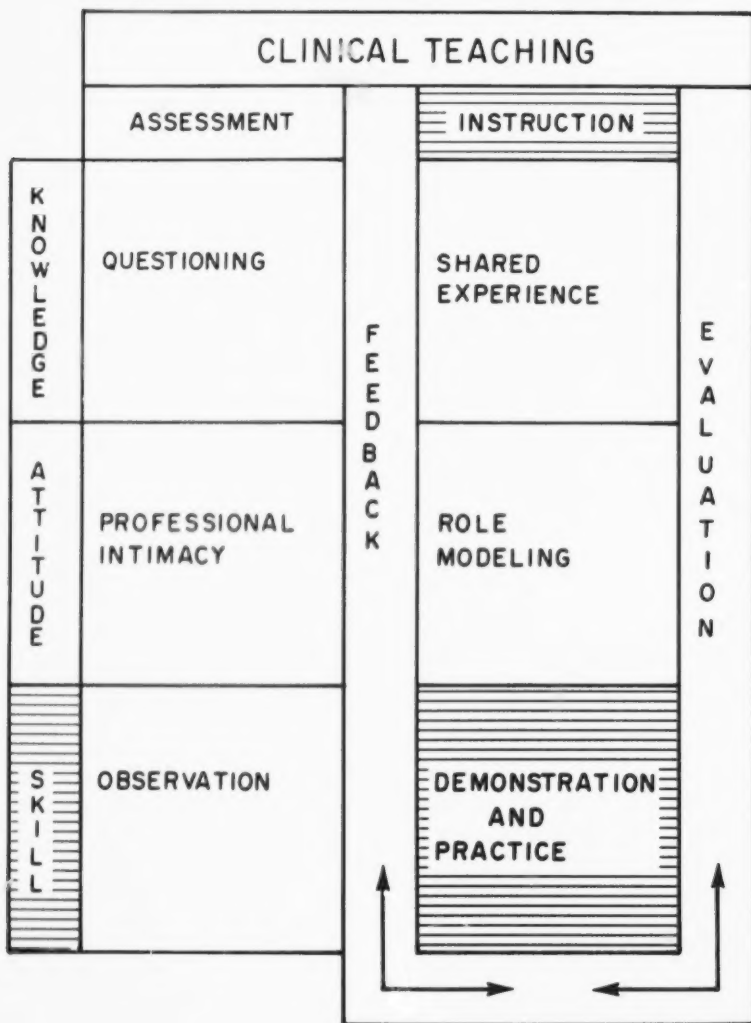
The second principle is to use the methods of *backward chaining* or *forward lengthening* to teach sequential skills. Many medical or surgical procedures are actually a series of sequential steps, each of which must be performed correctly and in proper sequence. In order to teach these procedures effectively, it is important that they be broken into their discrete components rather than taught as an indigestible lump, and that one of two specific techniques be used to teach the sequence of steps.

In backward chaining, the *last* step is demonstrated and practiced *first*, so as to give learners a sense of the procedure's endpoint and outcome. Each preceding step is then demonstrated and practiced, fol-

lowed in sequence by the latter steps already learned, the last step has been performed 10 times. For example, in the repair of a midline perineal episiotomy, the attending could teach first the final stage of subcuticular skin closure, then add to that (on the next patient) the placement of deep interrupted sutures in the rectovaginal septum, and finally teach the first step of a running, locked suture in the vaginal mucosa.

Forward lengthening works just the opposite of backward chaining. The *first* step is demonstrated and practiced *first*, and subsequent steps are added until the final step is reached.

Figure X. Demonstration and Practice



Chapter XI

FEEDBACK AND EVALUATION

Feedback connects assessment and instruction. When students and residents are assessed, information about their performance needs to be given back to them so that they know what was good and what needs to be improved. Thus, when you give feedback, you are instructing. On the other hand, the manner in which you give feedback to students and residents also influences assessment by making it easier or more difficult the next time. In order to encourage learners to be more revealing about themselves, hence making future assessment easier, feedback should be . . .

- as specific as possible;
- positive when deserved;
- not demeaning when critical;
- understandable;
- about things which can be changed; and
- well-timed.

Some people recommend saying something nice before giving critical feedback. At times, this can be quite artificial, especially when there is little to say that is nice. Instead, we recommend building a history of giving positive feedback so that, when feedback has to be critical, there is rapport with you and respect for your opinions. In other words, make it a point to "catch someone doing something right" as often as possible (Blanchard and Johnson, 1982).

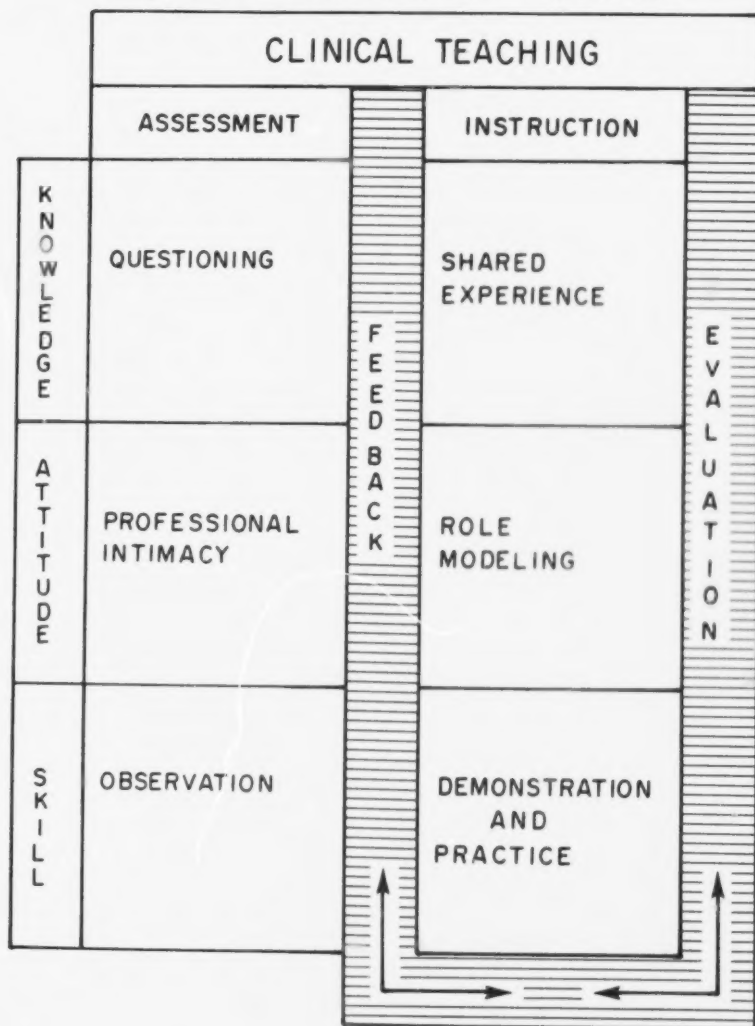
Feedback is an example of formative evaluation. Formative evaluation is conducted as the process of teaching and learning occurs, and its purpose is to improve. The Family Practice Development Center of Texas recommends that, in addition to general guidelines related to feedback, formative evaluation should . . .

- be based on systematic observation;
- emphasize change in behavior and progress toward a goal;
- be paraphrased by the learner to see if it is understood;
- be conducted in an unhurried atmosphere; and
- allow the person being evaluated to provide input.

Summative evaluation is conducted at the end of a preceptorship, and its purpose is to draw conclusions about the student or resident. We recommend that you follow the suggestions of the Clinical Evaluation Project sponsored by the Association of American Medical colleges, including their suggestion that psychometric solutions are not substitutes for your judgments. Following our belief that your clinical skills will serve you well as clinical teachers, we want to encourage you to use

all available data to judge the competence of your students and residents. They and their medical schools need your judgment of the knowledge, attitude, and skills attained in your office. If you have been assessing KAS, targeting instruction to known needs, and uncovering unknown needs, summative evaluation by you at the end of the preceptorship will be a natural occurrence.

Figure XI Feedback and Evaluation



Chapter XII

BECOMING A CREATIVE PRECEPTOR

One college English teacher asked the question, "Excellence in Teaching: What Does It Really Mean?" According to her, variables can be identified which reflect excellence in teaching, regardless of time, place, or locale (Ford, 1983). Similarly, we think that variables also can be identified which reflect another universal trait of teaching, creativity. We believe that creativity is defined by the degree to which an activity is both useful and novel. A creative preceptor is useful by helping students and residents learn new knowledge, attitudes, and skills. A creative preceptor is novel by teaching in new, unusual, different, remarkable, surprising, unique, and unexpected ways.

Preceptors who are useful, but not novel, can be pedantic bores. Those who are novel, but not useful, may be charlatans. By the way, research suggests that when people are asked to pretend that they are creative, they in fact act more creatively. One explanation for this well-tested phenomenon is that, through most of their lives, people are told that they are not creative, and they proceed to validate this statement by not being creative. However, when they are regarded as creative, they change into the creative persons that they were all along (Stein).

Developing your own handbook for students and residents is an opportunity to be creative. Some preceptors have been both useful and novel in putting together a handbook which includes a description of their office or clinic, a list of objectives which learners are expected to achieve, suggested readings for students and residents, and a schedule to follow. Some preceptors have paid particular attention in their handbooks to clinical procedures which they "specialize" in and to special projects which students and residents can carry out.

Our hope is that you see the preceptorship as a "license" to be creative. Have fun and so will your students and residents. They and you also will learn a lot from each other. Remember, to teach is to learn twice.

Figure XII. The Creative Preceptor

	USEFUL	NOT USEFUL
NOVEL	CREATIVE	CHARLATAN
NOT NOVEL	PEDANTIC BORE	?

REFERENCES

- Blanchard, Kenneth and Johnson, Spencer. *The One Minute Manager*. William Morrow and Company, New York, 1982.
- Eichna, Ludwig. "Medical School Education, 1975-1979." *New England Journal of Medicine*, Vol. 303, pp. 727-734, 1980.
- Feinstein, Alvan R. *Clinical Judgment*. Williams and Wilkins, New York, 1967.
- Flaherty, Robert J. "A Bibliography for Family Practice Preceptorships." *Family Medicine*, Vol. 15(2), p. 73, 1983.
- Foley, Richard P. and Smilansky, Jonathan. *Teaching Techniques: A Handbook for Health Professionals*. McGraw Hill Book Company, New York, 1980.
- Ford, Margaret. "Excellence in Teaching: What Does It Really Mean?" *Improving College and University Teaching*, Vol. 31, pp. 137-141, 1983.
- Irby, David M. "Clinical Teacher Effectiveness in Medicine." *Journal of Medical Education*, Vol. 53, pp. 808-815, 1978.
- Lamkin, B., Mygdal, W. K., and Hitchcock, M. *Perceptions of the Ideal Clinical Teacher: Views of Family Medicine Educators*. Family Practice Development Center of Texas, Vol. 4(1), pp. 1-4, 1983.
- Luft, Joseph. *Of Human Interaction*. Mayfield Publishing Company, Palo Alto, 1969.
- McDermott, Walsh. "Education and General Medical Care." *Annals of Internal Medicine*, Vol. 96, pp. 512-517, 1982.
- Personnel Journal*. "Conscious Competency — The Mark of a Competent Instructor," pp. 538-539, July, 1974.
- Reichman, Franz, Browning, Francis E., and Hinshaw, J. Raymond. "Observations of Undergraduate Clinical Teaching in Action." *Journal of Medical Education*, Vol. 39, pp. 147-163, 1964.
- Stein, Morris. *Stimulating Creativity: Volume I. Individual Procedures*. Academic Press, New York, 1974.
- Stritter, F. T., Hain, J. D., Grimes, D. A. "Clinical Teaching Reexamined." *Journal of Medical Education*, Vol. 50, pp. 876-882, 1975.

University of Utah School of Medicine
**Handbooks to Improve
 Medical Teaching**

**There is No Gene for Good Teaching:
 A Handbook on Lecturing for Medical
 Teachers**

PREPAID \$5.00
 POSTPAID \$6.00

**A Handbook for Group Discussion Leaders:
 Alternatives to Lecturing Medical Students
 to Death**

PREPAID \$5.00
 POSTPAID \$6.00

**Evaluating Medical School Courses:
 A User Centered Handbook**

PREPAID \$10.00
 POSTPAID \$12.00

**Residents as Teachers:
 A Guide to Educational Practice**

PREPAID \$5.00
 POSTPAID \$6.00

**Preceptors as Teachers:
 A Guide to Clinical Teaching**

PREPAID \$5.00
 POSTPAID \$6.00

Send orders or inquiries to . . .

Dr. Neal Whitman
 Department of Family and Community Medicine
 University of Utah School of Medicine
 50 North Medical Drive
 Salt Lake City, UT 84132
 Telephone (801) 581-3614



PLEASE MAKE CHECKS TO UNIVERSITY OF UTAH.
 POSTAGE AND HANDLING IS INCLUDED IN THE QUOTED
 PRICES.